

**Improving students' learning achievement on economics through cooperative learning assisted by the learning CD****Rahaju Widjajati**✉

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Abstract

The purpose of this study was to improve students' learning achievement. 32 students of grade X at SMA 2 Semarang were treated by classroom action research from May until June 2011. The research consisted of 2 cycles covering 4 stages, namely; Planning, Acting, Observing and Reflecting. It used cooperative learning strategy with learning CD. The descriptive analysis technique was used to compare the observation result and reflection in each cycle. The results showed that the cooperative learning methods can increase classically the learning mastery at grade X-8 was for 75% in the first cycle with the average score was 70.22 and 100% in the second cycle with the average score was 79.72. Then, it can be concluded that cooperative learning strategy by the learning CD can improve the cooperation, positive attitude, giving opinion and encourage students take parts in the fun atmosphere of learning process. So, the strategy can improve learning outcomes on Economics in the Material of Consumption and Saving Functions.

Peningkatan prestasi belajar mata pelajaran ekonomi melalui pembelajaran kooperatif berbantuan CD pembelajaran**Abstrak**

Masalah yang dikaji dalam penelitian ini adalah apakah strategi pembelajaran kooperatif berbantuan CD (*Compact Disk*) pembelajaran dapat meningkatkan prestasi belajar? Tujuan penelitian ini adalah untuk meningkatkan prestasi belajar siswa dengan menggunakan strategi pembelajaran kooperatif kompetitif berbantuan CD. Penelitian Tindakan Kelas dilakukan pada bulan Mei-Juni 2011 pada siswa kelas X8 SMA Negeri 2 Semarang dengan jumlah peserta 32 siswa. Penelitian ini terdiri dari 2 siklus mencakup 4 tahap yaitu Perencanaan, Tindakan, Pengamatan dan Refleksi. Analisis data menggunakan teknik analisis deskriptif komparatif yaitu membandingkan kondisi awal sebelum tindakan dengan hasil-hasil yang dicapai pada setiap siklus. Hasil menunjukkan bahwa pembelajaran kooperatif kompetitif dapat meningkatkan ketuntasan belajar secara klasikal pada kelas X8 yaitu 75% pada Siklus I dengan nilai rata rata 70,22 dan 100% pada siklus II dengan nilai rata rata 79,72. Simpulan penelitian adalah Pembelajaran dengan Strategi Kooperatif Kompetitif Berbantuan CD Pembelajaran dapat membangun sikap kerjasama yang positif, menumbuhkan keberanian bertanya dan mengemukakan pendapat, berperan aktif dalam proses pembelajaran dengan suasana yang menyenangkan sehingga dapat meningkatkan Hasil Belajar Ekonomi Materi Fungsi Konsumsi dan Tabungan.

INTRODUCTION

Curriculum has significant implications for education in a country. Curriculum is a system which becomes the core of the education progress in a country. Thus; Competency-Based Curriculum 2004 was revised through the Education Unit Level Curriculum requires the paradigm shift in education and learning, especially on the type and level of formal education (schools). The changes should be followed by the teachers who are in charge of organizing the learning at schools (inside and outside the classroom). One of the learning paradigm change is the learning orientation which is originally centered on the teacher (teacher-oriented learning), moves on students (student-centered learning).

The Education Unit Level Curriculum as the result of changes in Competency Based Curriculum (CBC) requires the learning which does not only learn about the theoretical concepts and facts, but also the applications in daily life. Thus; the learning materials are not only made up of simple things which should be memorized and understood but also composed of

complex materials which require the analysis, application and synthesis.

Therefore; teachers should be able to determine a model which can create learning situations and conditions which are appropriate to the expected goals. Based on the description above, it is very urgent for teachers, especially the economics teachers to understand the characteristics, materials, learners/students and learning methodologies in the teaching and learning process, especially related to the selection of the learning models or strategies which are more adaptable and more effective based on the more humane, creative, innovative, and fun learning.

The problem of the research was experienced by students of class X in SMA 2 Semarang on economics subject at the second semester. According to the official and authentic records, the scores of the subject were not satisfactory. Based on an interim analysis, it happened because students tended to be passive, and the learning process was not effective and efficient. It can be seen from the mid test scores at X 8 in SMA Negeri 2 Semarang below.

Table 1. The Data of Students' Mid Test Score on Economics Class X in the Academic Year of 2009/2010 in SMA Negeri 2 Semarang

No	Data Type	Concept	Kognitif		Psikomotorik	
			Absorption percentage	Mean	Absorption percentage	Mean
1.	Mid Semester	Consumption and	15%	74	65%	70
2		Saving Functions				

Source: The Researcher's Data Recap in the Academic Year of 2009/2010

The table shows the bad mid test scores because they were below the Standard Minimum Competency in SMA 2 Semarang for Economics Subject was 76. In the globalization era and the development of science and technology and information, the social life environment does change also.

Therefore, everyone should adapt and adjust to the social life environment. The dynamic environmental conditions will bring competition or rivalry. In the reality of today's life, the higher level of competition can not be avoided, because a person is in an environment which does not stand alone.

Facing the change challenges in all aspects of life, every organization including educational institutions, especially teachers, have to adapt to those changes in order to survive and thrive. Therefore; a teacher or an educator is required to be able to use the method, and media and learning technologies. One of learning strategies is cooperative learning which develops students' activity patterns using study groups as the means to drive the learning. It is expected to enable students help each other in understanding the subject matter through discussion and problem solving. Thus; the success of a learning process can be said effective determined by several components involved.

On the basis of the considerations above, the researcher tried to implement Compact Disk (CD) learning media through cooperative learning approach on the economics materials of Consumption Function and Saving Function. With the cooperative learning media and approach, it is expected for students to follow the lesson actively and well, so the effectiveness of a learning can be achieved optimally. The learning theory is basically the explanation of how information is processed in the students' thinking.

Hilyard and Bower in Hamalik (2006) said that the essence of learning was a change of attitude through activities and experiences. Learning was also a change in human behavior or relatively permanent change as a result of experience. Learning through continuously process undertaken from various experiences, these experiences which have resulted in the so-called learning (Santosa, 2006: 117). From some definitions above, it can be concluded that study is the behavior change happens in a person because of his experiences.

Learning is a process which should be dominated by students but it is not made by students. Learning is essentially an attempt of

educators or teachers to help students do the learning activities. The purpose of a learning is to realize the efficiency and effectiveness of learning activities conducted by learners/students, so students' achievement are getting better. The parties involved in the learning are the teacher (individual or group) and students (individuals, groups or communities) who interact each other. The activities process activities are the steps or stages done by teachers and students in the learning. Learning activities should be planned in such a way to provide the learning experience which involves the mental and physical processes through interaction among students and teachers, the environment and other learning resources in order to achieve the basic competence.

The good learning approach is a learning approach which is capable of delivering or directing students for various activities and attracting students' interest and enthusiasm to learn. In this case, students should be given the opportunity to train their ability to analyze; such as completing the tasks and exercises which need the interaction either among students or among students and teachers. Therefore; there should be a method which involves students directly in the teaching and learning process so it is able to form students' behavior. The method of the study is cooperative learning approach.

Cikgoz in Altun (2015) defined cooperative learning was students' work in small groups and help each other in the learning process. There were principles and requirements for the implementation of the certain CL, these principles were: (1) positive interdependence, it was when each individual depended on other members of the group. each individual complements the others, (2) Individual Accountability; it was evaluating each individual's performance and the effect of the results on individual and group success, (3) Face-to-face interaction, it was

when the group members achieved success by helping each other and sharing ideas. More face to face interactions would improve the responsibility and social solidarity. (4) Social Skills; students in cooperative learning group (Johnson & Johnson, 1999; Johnson, Johnson & Smith, 1998).

The learning experiences could be realized through the use of varied approaches and centered on the learner/student. (National Education Standards Agency 2006: 17). According to Slavin (2005: 11), he defined that "Cooperative learning is a learning method which includes the students' heterogeneous ability to work in groups".

Cooperative learning is a form of learning based on a constructivism. Cooperative learning is learning strategy with a number of students as members of small group which have different ability levels. In completing the task, each member of the group must work together and help each other to understand the learning materials. In cooperative learning, learning was unfinished if one member in a group did not understand the learning material yet (Musyafa, 2010). The learning which is under the theory of constructivism is cooperative learning. Cooperative learning comes from the concept that students can easily find and understand the difficult concepts if they discuss with his friends, students work in groups to help each other to solve the complex problems. Cooperative learning was a group strategy which involved students working collaboratively to achieve the common goal (Eggen and Kauchakd in Solihatin 2008: 279). In the cooperative classroom, students learnt together in small groups consisting of 4-6 students who were heterogeneous in their ability, gender, ethnicity/ race and helped each other (Trianto 2007: 41). Then; The learning system which provided the opportunity for students to collaborate with fellow students in structured tasks was called

would gain better social skills, (5) Evaluation of treatment group; it was at the end of the working group, students gathered and discussed the productivity of the project and whether they had achieved the goal or not "Cooperative Learning" system (Lie 2002: 12).

From the definitions of co-operative learning above, it can be concluded that co-operative learning is to work together in a group with a structured task and that success will be achieved by all members' effort of the group. Each individual has the responsibility to achieve success in the group.

The globalization era has arrived, and the relations among nations without any distance. Furthermore; the global environment and the development of science and technology and information. It influences the social life also and the dynamics of this life forces each person to adapt and adjust to the environment. In this globalization era, improving the quality of education needs to be done. Changes and challenges happen in the community in this era are very fast and heavy. These conditions require education to be ready to anticipate them because they will bring competition or rivalry.

The CD-assisted learning is a learning to use the CD as a tool. Through this learning, teaching materials are presented through computer so the teaching and learning process is more interesting and challenging for students. Learning will be showed as detail and real as possible to depict the concept (the abstract and complex principles in a learning are made into as real, simple, systematic and clear as possible. Thus the use of learning via CD, will make the learning activities appropriate and efficient, so students' learning outcomes can be improved.

The Advantages of CD-assisted Learning

A wide variety of ICT products were

provided and they had the relevance with education, such as teleconferencing, e-mail, audio conferencing, lesson television, radio, interactive radio counseling, interactive voice response systems, cassette and CD ROMs etc. have been used in education for different purposes. (Sharma, 2003; Sanyal, 2001; Bhattacharya and Sharma, 2007). Kahiigi, et.al (2008) said that one of modern learnings was by using media based on information and communication technology; such as a CD-ROM.

Cooperative learning on economics subject at the concepts of consumption and savings functions are supported by computer through a CD learning which emphasizes on the empowerment of peers and increases the interaction among students to improve students' understanding on the materials of consumption and savings functions. With this learning, students can study without any help of teachers and can learn the materials with the CD either individually or in groups. In the conventional learning model, the learning activities are dominated by teachers.

Most learners are accustomed to memorize without any development of thinking skills and problem solving.

Through cooperative learning strategies and approaches, students are trained to have collaborative attitude and compete positively so students can work together and also can compete to show their existence and independence soul. Working together let students to exchange, share and complement ideas because their geneity in the group.

Then; it will influence on students' achievement, especially on economics subject at the concepts of consumption and saving functions. Furthermore, if the learning is supported by means of a computer through a CD learning, this strategy will make students understand the materials well and solve the problem properly. After the learning process is over, the last meeting is for the final test to know whether students understand the material consumption and saving functions or not. From the above description, the pattern of thinking framework as follows:

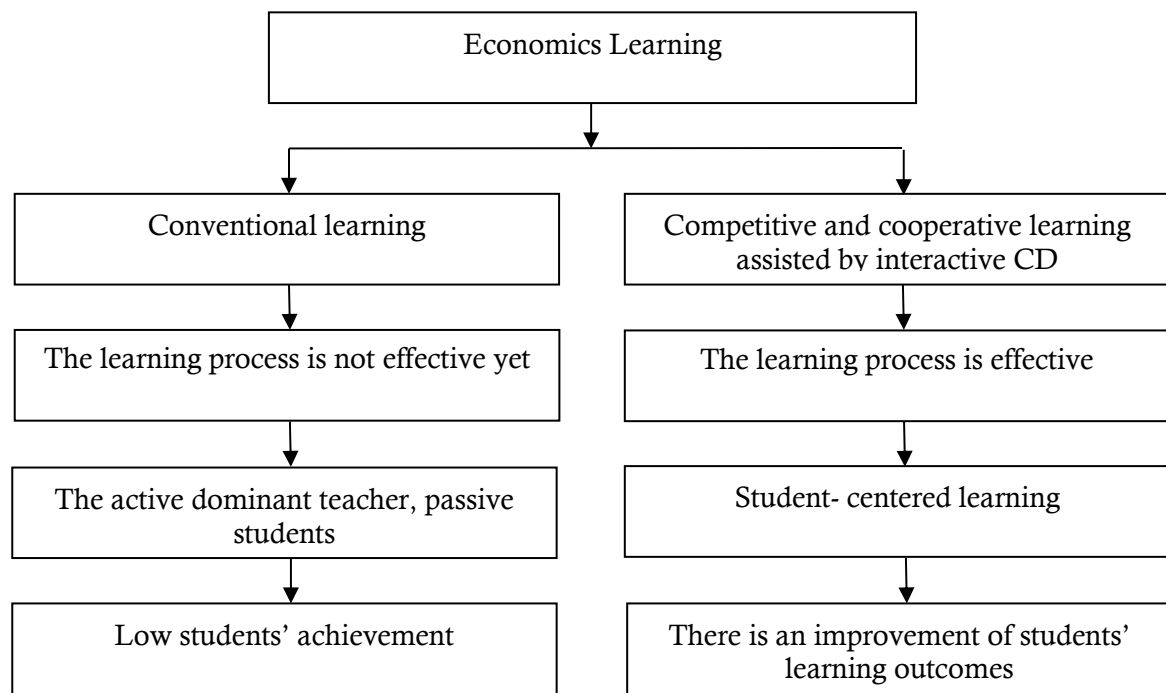


Figure 1. The Diagram of Thinking Framework

METHOD

It was a classroom action research. Kurt Lewin in (Kasihani Kasbolah 2000: 14) mentioned that the classroom action research was a research which had the spiral steps, each step consisting of four stages: planning, action, observation and reflection. The class action research was intended to improve learning in the classroom. The improving efforts were conducted to seek answers of the problems raised on the daily activities in the classroom. Thus; the classroom action research was practical and aimed to solve the problems in the learning through specific actions. The research design was based on Kammis and Taggort (Kasbolah, 2000).

Suharsimi Arikunto (1996: 96) defined variable as the research object or the focal point of research. Thus; the variable was the important part of a study, because it was a focal point of research. Then; Suharsimi Arikunto (1996: 97) divided variables into two variables; independent variable (X), and the dependent variable (Y).

Based on the above opinions, this research did not work for testing, but based on a qualitative approach, the study only investigated the process of learning development in each cycle. Therefore, it investigated the development of the learning outcomes carried out cooperative approach treatment with Compact Disk-assisted learning.

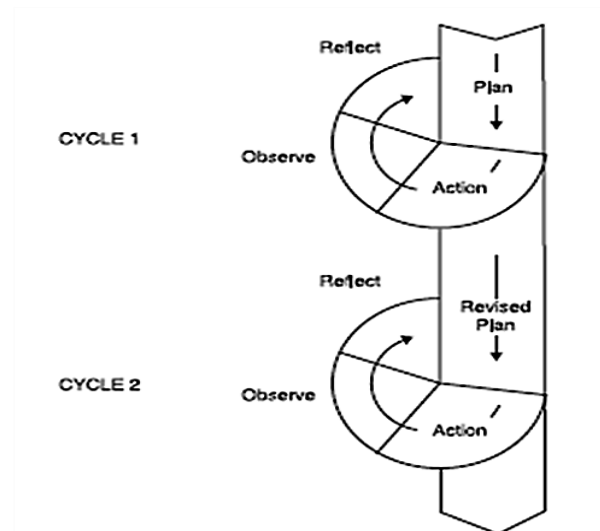


Figure 2. The Flow of Spiral Steps on the Classroom Action Research

Source: Kammis and Taggort (Kasbolah, 2000)

The study design was used to obtain a view which based on Arikunto (2010), the research subject was a thing or a person which the variables on. The subjects of the study were students of class X-8 SMA Negeri 2 Semarang, consisting of 12 male students and 20 female students. The data were collected by: a) Test: it was a written test before the action (pretest) and after the action (post-test). This tests were taken to determine

students' achievement before and after the actions, b) Observation was to collect data on students' activities during the learning process. The observations were made by the researcher herself and the economics teacher , c) Questionnaire was to determine students' responses on the implementation of Competitive Cooperative Learning Assisted with CD to determine the extent of the cooperation within the group who can take

place for mutual competition; d) Documentation was to collect the written materials such as; books, magazines, regulations documentation and others.

The primary data were the learning outcomes of Economics which were analyzed by descriptive analysis. It compared the daily scores of pre-action before and after the action at cycle I and cycle II. Both daily test cycles was compared with the initial conditions before implementation of cycle I and cycle II. The second data analysis was the analysis of secondary data.

The secondary data were from the questionnaires and observations, they were analyzed by using qualitative descriptive and did the reflection of some activities in the learning process. As the basis to determine the success of analyzing the data, it needed to be set the performance indicators in the study.

From the mean of students' daily tests and based on the assessment of affective

scores, it compared with a variety of competitive cooperative learning strategies assisted with the learning CD. The indicators of research success were students' learning outcomes which would increase from the minimum mean of daily scores was 76 for Economics and an increase on the affective scores. It should be higher than 76 and the improvements of the students' activeness in the learning process.

RESULTS AND DISCUSSION

1) Planning

Before conducting the research, students' learning outcomes at class X-8 in SMA Negeri 2 Semarang in the academic year of 2010/2011 was not good. It can be seen from the data test results at pre-cycle using the conventional strategy, the mean score was 63; the lowest score was 48 and the highest score was 80, and the absorption was only 15%.

Table 2. The Learning Scores at the Initial Condition

No	Scores	Number of Students	Percentage	Notes
1	< 75	27	85%	Incomplete
2	75 – 80	5	15%	Complete
3	81 – 90	-	-	Complete
	Total	32	15%	Classical Completeness

2) Implementation

Students got the explanation from the teacher on the day they would do the competition in groups to solve the 6 items, before the competition, students were asked to read the material in the learning CD to be understood and discussed with the group for 20 minutes. If there were students who did not understand about the materials, they could give questions to their friends in the group. If one group did not understand it, the teacher should give the guidance to the group. If there were no more groups which did not

understand the material, so it was considered that all students have understood the materials.

After studying the material, then it was continued to the competition to solve the items in the learning CD for 30 minutes. In the competition, if there was a group which did not do the question number one, then the group could not continue doing the next number, and so forth. For the group who did the question number 1 and so on, they were asked to report to the teacher to get the score. The first group who did the question first, they

would get 100, then the second group was 95, and so on. The interval between one group to the next group which could do the question item was 5.

After each group had finished doing the first question and it was true, they could continue to the next question. The teacher was the facilitator; if students faced the difficulty, the teacher should explain the materials. The competition was lasted for 30 minutes. Then students and the teacher discussed the materials together and drew the conclusions. Then, the teacher calculated the score of each group. After getting the scores, the teacher announced the group rankings, reward and motivation to improve the teamwork. Then the teacher gave the homework to create consumption and saving functions.

3) The Observations Result

Based on the test results of the first cycle, it can be seen that the performance improvement was 75%. Overall, each student was getting better however; the increase was not optimal. The mean score was 70.22; it was less than the minimal classical completeness criteria. Thus; the teacher needed to improve students' achievement.

4) Reflection

Based on the reflection, it can be seen that the learning CD-assisted on cooperative learning strategy, students showed the enthusiasm, pleasure and excitement to participate in the learning activities. Students also showed their activities; such as cooperating each other, sharing in a group, expressing their opinions in front of a group of his friends bravely, asking questions to his

friends or the teacher. Nevertheless; a few students were still passive; they were only listening. So, it was continued to the second cycle.

1) Action Planning

The second cycle was conducted on first week of June 2011, one meeting consisted of 2 x 45 minutes, and one evaluation was for 1 x 45 minutes. Based on the reflection on the first cycle, the teacher needed to draft a plan which would be used as the guidance of implementing the action learning cycle II. The teacher prepared the action learning and media learning via CD strategy. It was still same in the first cycle but there were twice classroom presentations for the excellent group of the competition.

2) Implementation

Similar to the previous meeting, the teacher opened the learning process by rolling the attendance list. Then, the teacher delivered the points of the material and the objectives of the learning. It was the same learning strategy which the teacher promoted the best group to present in front of the classroom to create the curves of Consumption and Saving Functions.

3) The Observations Result

Based on the test results of the second cycle, it can be seen that the implementation of cooperative learning strategy with learning CD on Economics in the materials of Consumption and Saving Functions at Class X-8 in SMA Negeri 2 Semarang showed the increasing achievement. The score data of the 2nd cycle were:

Table 3. Students' Learning Outcomes at Cycle II

No	Scores	Number of Students	Percentage	Notes
1	< 75	0	0	Incomplete
2	75 – 80	20	62.50	Complete
3	81 – 90	12	37.50	Complete
	Total	32	100	Classical completeness

4) Reflection

In the second cycle, the mean of the scores was 79.72; it was sufficient, so the action research could be stopped on the second cycle. Based on the observation results, the strategy could:

- a) students' learning outcomes were getting better
- b) students' active participation in the learning activities were higher.

c) students' enthusiasm and students' cooperation were very good.

Students' learning outcomes at economics subject for the learning materials of Consumption and Saving Functions. The scores were compared to the initial condition before the action (cycle I and cycle II) and after action (cycle I and cycle II) were shown in the following table:

Table 4. The Comparisons of the Initial Condition, Action Cycle I and Action Cycle II

No	Interval	Initial Condition	Action Cycle I	Action Cycle II	Notes
1	< 75	85%	25%	0%	Incomplete
2	75 – 80	16%	50%	62.5%	Complete
3	> 80	0%	25%	37.5%	Complete
4	Classical Completeness	15%	75%	100%	

Based on the table above, it can be described as follows: the classical absorption was the average of the students' learning outcomes; the test results of initial condition was only 15% in the first action cycle, and increased up to 75%. It means that the increase was 59%. And after the second cycle, it increased up to 100%; it means that

the increase was 25%. So, the classical completeness was 85%.

Then, the learning outcomes at Economics subject for the material of Consumption and Saving Functions between Expository Teaching as the initial condition and Competitive Cooperative learning method with Learning Assisted CD (after action) can be seen on the following table:

Table 5. Expository Teaching and Competitive Cooperative Learning Assisted by CD Learning

No	Score Range	Expository Teaching	Competitive Cooperative Learning Assisted by CD Learning	Notes
1	< 75	85%	0%	Incomplete
2	75 – 80	0%	62.50%	Complete
3	81 – 90	0%	37.50%	Complete
	Classical Completeness	16%	100%	

Based on the above data, it can be seen that the classical absorption was the mean of students' learning outcomes. Expository teaching could make students understand was for 15%, whereas; CD Assisted Learning

of Competitive Cooperative Learning was for 100%; there was 85% of the increase for the Classical Learning Completeness. 100% classical absorption was above the KKM for 85%, it means that it was successful.

Effective learning requires strategy, media or learning models which were suitable to field condition. A good learning system should help students or learners were able to develop themselves optimally and can achieve the learning goals. Although the learning process was not completely centered on students on the open education system, but students still should learn. Thus; the learning process should be oriented to the needs and abilities of students. Furthermore; learning activities should be able to provide the fun and useful learning experiences. The teacher should provide various learning situations which were appropriate to the material presented, and adjusted with students' ability and characteristics.

Learning was very influential to affect change on a person's behavior to a particular situation caused by his repeated experiences in the situation, which the changes could not be explained or the response tendency on talents, maturity, or spontaneous moment. The rapid development of ICT (Information, Communication and Technology) influenced all fields including on education. The change of education paradigm was one of consequences happened. Education was not only be interpreted narrowly as the knowledge transfer but an environment settings for providing students' learning experiences. ICT was able to become the media and the extensive learning resources which enable learners to learn independently without the teacher's presence (Thomas and Setiaji, 2014).

Based on the research results above, it showed that the classical completeness increased from the first cycle to the next cycle. The learning strategy allowed students get some experiences; such as being enthusiasm, happiness and excitement to participate in the learning activities. It made students creative and courageous, cooperate each other, share in a group, express opinions

in front of a group of his friends, and ask either to friends or teachers.

The trend of more active students' pattern would motivate students to be more enthusiastic in the learning process. It is in line with Utami and Oktarina (2013) which revealed that motivation was one of the determinants of students' success. Motivation was not only important to make students do the learning activities, but also determined how many students can learn from their activities or the information they got so students were motivated to show the high cognitive process in learning, to absorb, and remember what they studied.

The increase of students' enthusiasm in using the learning media assisted with the learning CD was proven effective to support the learning. Kusmaryono (2015) revealed that learning in the material of exchange rate and payments balance in SMA 1 Bae Kudus was more effective and more interesting compared to conventional methods. Then; it also increased students' learning outcomes better than the conventional ones.

Cooperative learning gave better learning outcomes than the conventional or traditional ones. The conventional was failed to develop the students' courage to argue, their critical thinking and creativity. As a result, after they graduated from the school and worked, they could not show the good performance, they tended to wait for the guidance only.

Cooperative learning was expected to make students more interested and challenged to learn in groups. It would influence students' interest to learn and achieve. Cooperative learning was different from conventional teaching, it allowed students in student-centered learning to explore what they learned which consequently, influenced their passions and achievements for learning (Suratno, 2013).

CONCLUSIONS

Learning strategy through Competitive Cooperative Assisted by Learning CD can build the students' positive attitudes such as; cooperating, sharing in completing the task, expressing the opinions, creating a sense of individual responsibility in a group, encouraging asking and expressing opinions either to friends or teachers. Students played the active roles on the fun atmosphere of learning process. The strategy could improve students' learning outcomes on Economics in the material of Consumption and Saving Functions at Grade X-8 in SMA Negeri 2 Semarang, in the academic year of 2010/2011.

It is suggested that the strategy of Competitive Cooperative Learning Assisted by Learning CD, should be used by students, so they can cooperate each other, get the active learning in a pleasant atmosphere. It is able to be an alternative strategy in the teaching and learning process to improve the quality of learning, though it should be modified and adapted to the characteristics of each subject.

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